

REMARKS/ARGUMENTS

Applicants would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office Action. Favorable reconsideration of the application is requested in view of the remarks and amendments made herein.

Claims 1-2 and 5-11 were rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2001-118862 (Akira) in view of U.S. 6,709,543 (Kurosawa) and either U.S. 2001/0029088 (Odajima et al.) or U.S. 2003/0070517 (Tsujimoto). Traversal of this rejection is made for at least the following reasons. As stated in the specification of the present application, when the vacuum sucking operation is performed, the chips adhered to the sheet are bent and deformed together with the sheet. Thus, the sheet is exfoliated from the lower surfaces of the chips *due to the bending deformation*. (See page 13, lines 2-6) In Akira, the chips are not bent. Instead, the chip is released from the sheet by drawing a vacuum suction on the sheet and then by either moving the chip in an x-direction, as shown in Figs. 1c and 1d, by rotating the chip, as shown in Fig. 4, or by otherwise moving the chip in combination with the vacuum suction. Each embodiment of Akira shows that there must be some movement of the chip in order to exfoliate the chip from the sheet. This is also made clear by a machine translation of the Akira patent, which is attached hereto for the Examiner's convenience. In Kurosawa, the chip is released from the sheet by a combination of vacuum suction and by thrust pins. (See Col. 14, ll. 27-32) Neither of the cited references disclose, teach, suggest or otherwise predict a method or apparatus in which the sheet is exfoliated from a lower surface of the semiconductor chip "due to the bend deformation using only the vacuum suction force," as recited in the present claims. (emphasis added). Neither Odajima nor Tsujimoto make up for the cited deficiencies of Akira and Kurosawa as neither reference discloses, teaches, or suggests using a vacuum force for exfoliating a sheet from a semiconductor chip. Both references instead are

directed to peeling operations.

Moreover, although the Examiner stated that Kurosawa shows the semiconductor chip to be bent (Figs. 18A, 19A, 20A), the semiconductor chip is bent in an opposite direction of the bending of the sheet. Further, even if Kurosawa's semiconductor chip is bent toward a source of the vacuum suction, the chip is bent above the original flat surface 22 and the surface 22 is no longer a flat plane in this state. Accordingly, Kurosawa fails to show that both the sheet and the semiconductor chip are bent and deformed by the suction force toward the source of the vacuum suction from a flat plane in which the sheet is abutted against the suction surface of the exfoliation mechanism, as claimed.

New claims 12-16 have been added to further define over the proposed combination of Akira, Kurosawa, and Odajima or Tsujimoto.

For at least these reasons, the combination of Akira, Kurosawa, and either Odajima or Tsujimoto cannot render obvious independent claims 1, 5, 10, or 11, or any dependent claim thereof. Withdrawal of this rejection is respectfully requested.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

Appln. No. 10/620,184
Amendment dated January 30, 2009
Reply to Office action dated October 2, 2008

If there are any additional fees resulting from this communication, please charge same to our
Deposit Account No. 16-0820, our Order No. NGB-35857.

Respectfully submitted,
PEARNE & GORDON LLP

By: /Una L. Lauricia/
Una L. Lauricia – Reg. No. 48,998

1801 East 9th Street
Suite 1200
Cleveland, Ohio 44114-3108
(216) 579-1700

Date: January 30, 2009